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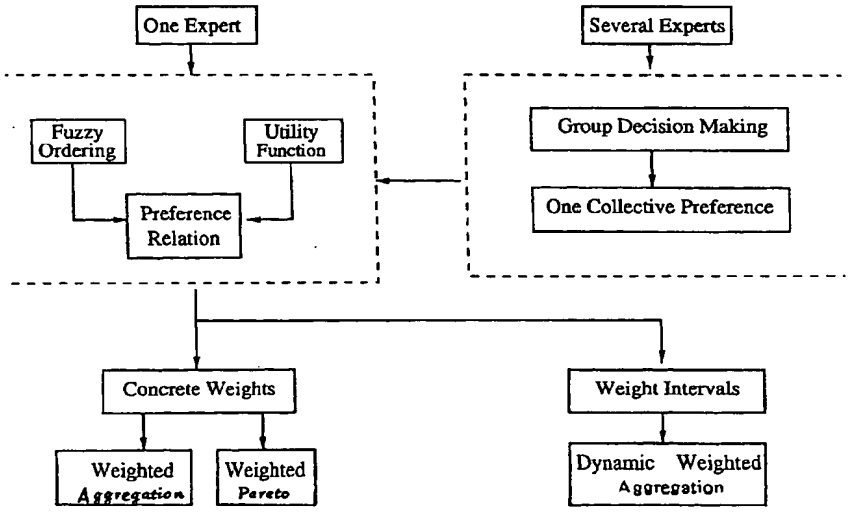
(54) Title: FUZZY PREFERENCES IN MULTI-OBJECTIVE OPTIMIZATION (MOO)



(57) Abstract: A method to obtain the Pareto solutions that are specified by human preferences is suggested. The main idea is to convert the fuzzy preferences into interval-based weights. With the help of the dynamically-weighted aggregation method, it is shown to be successful to find the preferred solutions on two test functions with a convex Pareto front. Compared to the method described in "Use of Preferences for GA-based Multi-Objective Optimization" (Proceedings of 1999 Genetic and Evolutionary Computation Conference, pp. 1504-1510, 1999) by Cvetkovic et al., the method according to the invention is able to find a number of solutions instead of only one, given a set of fuzzy preferences over different objectives. This is consistent with the motivation of fuzzy logic.

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